

Perceived social support levels among university students following the 2011 earthquake in Van, Turkey

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Abstract

Objective: To evaluate the perceived social support levels of students after an earthquake.

Methods: This cross-sectional, descriptive study was conducted between June and July 2012 in Van, Turkey, following an earthquake in the region. Sample comprised students at the midwifery and nursing department of Yuzuncu Yil University, Turkey. Data was collected using a questionnaire including student information and the multidimensional scale of perceived social support inventory. Quantitative data was analysed using SPSS 17.

Results: Of the 650 subjects, 461(70.9%) migrated away from the city following the earthquake, while 189(29%) stayed back, and, of them, 98(52%) students stayed in tents and 52(27.5%) in containers. The mean perceived social support level of students was 58.9 ± 17.9 and the level of perceived social support increased as respondents' age, class and economic status increased ($p < 0.05$).

Conclusions: Perceived social support was found to be affected by variables such as university year, age and relation with friends, economic status and migration status after the earthquake.

Keywords: Earthquake, Perceived social support, Students, Disaster victims. (JPMA 68: 1019; 2018)

Introduction

On Sunday, October 30, 2011, at 13:41 local time, an earthquake measuring 7.2 on the Richter scale hit the densely populated region of eastern Turkey near the city of Van. Utilities such as electricity, water, gas and telecommunication were interrupted. In the month following the earthquake alone, the city witnessed more than 5,000 aftershocks; some extremely strong. The second earthquake occurred on Wednesday, November 9, 2011, at 21:23 local time.^{1,2} The magnitude of this earthquake was measured as 5.7 on the Richter scale. According to the report of Disasters and Emergency Management Directorate, a total of 644 people died in the two earthquakes.³ After the second earthquake, on November 15, it was announced that the number of collapsed buildings and buildings damaged to the point of non-inhabitability rose from 28,000 to over 35,000.³

An earthquake is a significantly traumatic event for individuals. Prior studies have shown that symptoms following a traumatic event can be affected by the intensity of the trauma, genetic predisposition, an individual's social-support system and previous traumatic experiences.^{4,5} A social-support system is important because getting back to daily life following the

earthquake is directly related to solving health and sheltering problems and raising morale. Family support and social support have important roles in decreasing the psychological effects of traumas like those experienced in an earthquake.⁶ Natural-support system plays an important role in solving psychological problems.⁷⁻⁹ The current study was planned to evaluate levels of social support perceived by students in Van earthquakes.

Subjects and Methods

This cross-sectional and descriptive study was conducted between June and July 2012 in Van, Turkey. The universe was accepted as a sample and the universe was defined as students at the midwifery and nursing departments of Yuzuncu Yil University, who were in Van during the earthquake, who could speak Turkish and who volunteered to participate in the study. Nursing department consists of female and male students whereas midwifery department is composed only of female students in Turkey. Students who did not fill in the whole questionnaire or did not want to participate in the study were excluded. The study was approved by the institutional ethics committee and informed consent forms were completed by all the volunteers.

The tool used for data collection consisted of an information form including information about participants' socio-demographic characteristics and the multidimensional scale of perceived social support (MSPSS).¹⁰ The information form included factors like age, gender, marital status, economical situation, income,

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department and class, migration status, Perception of relations with family and friends. The MSPSS is a 12-item scale that measures perceived support from three different sources: family, friends, and a significant other source. There are three groups related to the source of support, each composed of four items: family (3.,4.,8. and 11. items), friends (6.,7.,9. and 12. items) and a spouse/partner (1.,2.,5. and 10. items). Participants completing the MSPSS are asked to indicate their agreement with items on a 7-point Likert-type scale. The choices are scored as: "Completely agree: 7", "Mostly agree: 6", "Agree: 5", "Uncertain: 4", "Disagree: 3", "Mostly disagree: 2" and "Completely disagree: 1". There are no negative statements on this scale. Total and subscale scores range from 1 to 7, with higher scores suggesting greater levels of perceived social support. The possible score range is between 12 and 84. The scale objectively assesses the adequacy of social support obtained from three different sources. The subscale scores are obtained by the sum of four items on the subscale, and the total scale score is obtained by the sum of all the subscale points. High scores mean highly perceived social support.^{8,11,12} The general reliability of the MSPSS for this study was found to be at 0.865.

The data obtained was analysed using SPSS 17. Data was analysed using descriptive statistics. Continuous variables were expressed as means $\pm$ standard deviation, and the categorical variables were expressed as frequencies and percentages. In the comparison of quantitative data, the differences between the two groups were analysed using a T test, the differences between more than two groups were analysed by one-way analysis of variance (ANOVA) test, and Tukey's Post-Hoc test was used for detection of the group responsible for the difference.

Results

Of the 650 subjects, 407 (62.6 %) were female while 243 (37.4%) were male (Table-1). After the earthquakes, 316(48.6%) students lived in dormitories, 78(12%) lived in modified shipping containers and 120(18.5%) lived in slightly damaged apartments. Among the students, 461(70.9%) had migrated out of the city, and of the 189 (29%) who had not migrated, 98(52%) students stayed in tents and 52(27.5%) lived in containers (Figure).

Among the families of the participating students, 32(5%) had lost their jobs and 84(12.9%) had temporarily quit their jobs, while 192(29.6%) had encountered decrease in income. Besides, 263(40.4%) of the students did not stay in the same house after the earthquake.

In the evaluation of the mean subscales in the MSPSS of the participating university students, the level of family

Table-1: The distribution of the relation between social support scores according to students' socio-demographic characteristics.

Socio-demographic characteristics of students	N= 650	X $\pm$ SD	P value
Gender			
Male	243	60.7 $\pm$ 17.2	p<0.05
Female	407	55.8 $\pm$ 18.7	
Age (years)			
18-20	185	55.0 $\pm$ 16.8 b	p<0.05
21-23	337	60.2 $\pm$ 17.8 a	
>23	128	60.7 $\pm$ 19.0 a	
Department			
Nursing	362	65.6 $\pm$ 18.5	p<0.05
Midwifery	288	55.8 $\pm$ 18.7	
Marital status			
Married	25	68.0 $\pm$ 17.7	p<0.05
Single	625	58.5 $\pm$ 17.8	
Class			
1	195	55.7 $\pm$ 16.9 b	p<0.05
2	193	56.3 $\pm$ 18.2 b	
3	118	59.5 $\pm$ 17.6 b	
4	144	66.0 $\pm$ 17.0 a	
Migration status			
Yes	461	59.9 $\pm$ 17.4	p<0.05
No	189	56.2 $\pm$ 18.8	
Perception of relations with family			
Very good	221	63.1 $\pm$ 16.9 a	p<0.05
Good	350	58.5 $\pm$ 17.6 a	
Middle	79	48.4 $\pm$ 17.6 b	
Perception of relations with friends			
Very good	323	63.3 $\pm$ 15.6 a	p<0.05
Good	242	57.3 $\pm$ 17.7 a	
Middle	85	46.3 $\pm$ 20.0 b	
Occupational status			
Not working	591	57.9 $\pm$ 17.9	p<0.05
Working	59	67.8 $\pm$ 15.2	
Economic status			
Lower income and expense	356	55.8 $\pm$ 18.5 b	p<0.05
Average income and expense	255	61.8 $\pm$ 16.6 a	
Higher income and expense	39	66.9 $\pm$ 14.4 a	

support was 22.3 $\pm$ 7.0, the level of friend support was 20.5 $\pm$ 7.6, the level of spouse/partner support was 16.0 $\pm$ 9.5, and the total MSPSS score was 58.9 $\pm$ 17.9 (Table-2). The MSPSS total scores of the female university students were significantly higher than that of males (p<0.05). The total MSPSS score of the university students between 18 and 20 years age was lower than that of students between 21 and 23 years, and of those aged 24 and over, which was also significant (p<0.05). The total MSPSS scores of the university students in the first, second, and third university years were lower than those in the fourth year, which was found to be significant (p<0.05). The total MSPSS scores of the university

Table-2. Distribution of students according to their scores through social support scales and subscales.

MSPSS Subscales	Min-Max	X	SD
Family	4-28	22,3	6,9
Friends	4-28	20,5	7,6
Spouse/partner	4-28	15,9	9,5
MSPSS (total)	12-84	58,8	17,9

MSPSS: Multidimensional Scale of Perceived Social Support.

earthquake not only destroys physical infrastructure but also destabilizes economic and social structure.^{3,13}

After the first earthquake by the end of October, people started to migrate from Van with their belongings that they could take out from their damaged houses. Anecdotal evidence suggested that rent increased by nearly one third. After the second earthquake the majority of the people relocated to other cities. In this

**Figure:** Students' containers (in the campus). Four students live in each modified shipping container.

students at the midwifery school were significantly higher than those at the nursing school ($p < 0.05$). University students who had very good relations with their family had significantly higher total MSPSS scores than those with moderately good relations ($p < 0.05$). The total MSPSS scores of the working students were significantly higher than those who did not work ($p < 0.05$). The total MSPSS scores of the university students who had less income than their expenditures were significantly lower than those with equal or higher incomes than their expenditures ($p < 0.05$).

Discussion

Earthquakes are one of the most destructive natural disasters. Earthquakes occur suddenly and without warning, resulting in long-term negative effects. The impact of the event is most traumatic when it affects a large or highly populated area because in this situation it can cause loss of lives, serious injuries, extensive property damage and disruption of essential services. Thus an

context, the population of Van, which was reported to be 700 thousand, dropped suddenly when approximately 400 thousand people relocated to other cities after the earthquake.^{1,14} Harsh weather conditions in the region required urgent solutions for temporary housing until permanent houses were commissioned and built. The efforts for temporary shelter focused on three solutions: tents and containers, transfer to public facilities in other towns, and allocation of unused housing.³

University students were permitted to leave, since the university buildings and the dormitories were damaged. First semester classes were held with an accelerated schedule in classrooms in prefabricated buildings. Second semester classes were held both in prefabricated classrooms and slightly damaged buildings. During the classes, the students stayed in containers and dormitories or with their families if they had remained in Van. Containers consisted of two rooms. Each of them was 9 square meters, seen as adequate for four students.

Electrical heating was used in the shelters, and this is why, when the electricity went out, the internal temperature in the shelters reached the outside air temperature in a very short time. For the students who lived in temporary residents, the extremely cold environment which in winter reaches or even exceeds -20 degrees centigrade in Van and the psychology of living in confined spaces were the major issues related to the shelter problem that emerged after the earthquake.

Among the young people attending university away from their families, various problems arose, including difficulties becoming integrated in a group, developing professionally, and planning for a better future, their efforts were channelled at adapting to a new school, a new city, and a strange environment.^{15,16} Along with the common problems mentioned above, these students also encountered problems related to the earthquake. One of the most important problems continued to be shelter. After the earthquake, 70.9% had to migrate and 40.4% stated that they could not stay in their homes, even after eight months.

The most common group support was that given by the students' families. The mean total MSPSS scores of the university students participating in the research was 58.9 ± 17.9 . Other multi-dimensional studies of perceived social support for university students reported mean total scores at 69.3 ± 12.1 ,¹⁷ 66.4 ± 13.9 ,¹⁸ 62.8 ± 15.8 ,¹⁹ and 63.0 ± 13.5 .²⁰ Perceived social-support levels in our study was lower than the levels in students in previously reported studies. The reason for these students' perceived social support being lower than other student groups may be explained by the efforts of students to adapt to a new social environment after migration or residence in temporary places. Furthermore, the continuing aftershocks may have affected the perceived support of students living in different conditions, such as containers (Figure), slightly damaged buildings, and dorms.

As the ages and the university years of the students increased, their social support significantly increased. A study has reported similar results.¹⁷ In a study on people with low and moderate socio-economic status living in tents six months after the 1999 Bolu earthquake, the mean scores of MSPSS in children over 15 years of old were 31.46 ± 11.74 for males and 33.53 ± 12.59 for females.²³ In a study the social support of the 15-17 age group was inadequate when compared to the 12-22 age group overall.¹² In another study, the group under 15 years old had significantly higher family subscale scores compared to those over 15 years old. In the same study, the mean friend subscale scores over 15 years old were significantly higher.²¹ The senior group demonstrated

higher total, family, and spouse/partner subscale MSPSS scores, possibly related to the fact that this age group had increased independence from the family, took their own responsibility and began to participate in relations. Youth is the period of life when the individual transits from childhood to adulthood. This period is responsible for the most significant psychological and social changes as the roles and responsibilities of adulthood are taken on.²² Young people who study, such experiences change and cause stress the most during the university period.¹⁷ In this period, social support from the environment and the relationships established with individuals have positive effects on the physical and psychological health of young individuals.²³

Students who worked and who had a good economic status had significantly higher perceived social support. Having a job, being surrounded by people, and enjoying financial means were significant elements aiding perceived social support.

The perceived social support for students who had migrated after the earthquake were significantly higher than those who had not. It might be argued that students who had migrated felt safer with their families, who lived far away from the winter conditions prevalent in Van. Also, living in undamaged houses and avoiding aftershocks improved their sheltering problems and resulted in an increase in perceived social support.

The mean family support scores for students living in dormitories were higher than those living independently. Considering that the families of students living in dormitories were not living in Van, these students and their families were less exhausted by the earthquake process and so provided better support to each other. Students living in slightly damaged apartments demonstrated higher family support scores than those living in containers.

Social support by families and friends would play a more important role in promoting emotional health in later periods of recovery. By these support activities, positive thinking and self-esteem are supported, and victims were able to ultimately attain better psychological position and well-being.²⁴ It was determined that as the relationships of students with their friends and families improved, their perception regarding social support significantly increased. Limitations of the study are application of convenience sampling, a modest sample size, and the cross-sectional nature of the study. Future longitudinal studies should be conducted to clarify causal relationships.

Conclusion

Perceived social support was found to be affected by variables such as the university year, age, relationship with friends, economic status, and migration status after the earthquake. Enhancing perceived sources of social support among the population, not only limited to the earthquake can be an effective way to reduce psychological distress following any disaster. The development of natural support systems within the community, such as social networks of families and friends are considered the ways to empower the students and to reduce stress.

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